# *Revision of the Species of the Sub-family* BOSTRICHIDÆ *of the United States.*

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The species here treated of have never been the subject of a special paper, most of them having been described in separate memoirs many years apart and by the older authors in such a manner as to leave their descriptions of no value from the accumulation of new species.

There is nothing to be added in their generic and tribal arrangement, to that already given by Dr. LeConte, in the Classification of the Coleoptera of North America, I merely content myself with copying his tables.

The three tribes indicated are as follows:

Thorax with distinct and entire lateral margin.....**Endecatomini.**
Thorax without lateral margin.

Head covered by the prothorax which is asperate in front....**Bostrichini.**
Head free, thorax not roughened in front.....**Psoini.**

## Tribe **ENDECATOMINI.**

The head is in great part covered by the prothorax, and is more decidedly retracted than the other genera of the sub-family, approaching in this respect the Anobiadæ, with which it also agrees in having the thorax completely margined from base to tip. The antennæ are eleven jointed, terminated by a rather loose tri-articulate club, the intermediate joints 3–8 are longer than wide and together much longer than the first two joints or the club. The anterior coxæ are contiguous. The tibiæ are slender not dentate externally and terminated by spurs, those of the anterior tibiæ stout and rather long. The tarsi are short, the first joint small but distinct in the males, connate with the second in the female, so that in the latter sex the tarsi are but four-jointed. The last joint of the tarsi is nearly as long as the preceding together.

This tribe forms the connecting link between the Anobiadæ and Bostrichidæ, with greater resemblance in its structure to the former than the latter, and contains but one genus.

## **ENDECATOMUS** Mellié.

Two species occur in our fauna.

**E. reticulatus** Herbst (*Anobium*) Käfer, v, p. 70, which has probably been introduced from Europe, and

**E. rugosus** Rand. (*Triphyllus*) Bost. Journ. II, p. 226; *dorsalis* Mellié, Ann. Fr. 1848, p. 218,

Color dark brown opaque, surface sparsely pubescent. Head finely and densely granulate. Thorax densely and more coarsely granulate with pale brownish hairs arranged in sinuous lines. Elytra with small granules

arranged in anastomosing lines, the spaces between them smooth, their summits with pale brownish pubescence.

In these respects the two species agree.

*E. reticulatus* is somewhat more elongate, the under surface quite conspicuously granulate and the male with two small frontal tubercles. Length .18 inch; 4.5 mm.

Occurs in the Southern States.

*E. rugosus* is more robust and with the under surface obsoletely granulate and the male without frontal tubercles. The upper surface is rather more conspicuously pubescent. Length .16 inch; 4 mm.

Occurs everywhere in the region east of the Rocky Mountains.

## Tribe **BOSTRICHINI.**

The insects of this tribe are all of cylindrical form and of moderate or small size. The eyes are prominent and behind them the head is moderately prolonged. The thorax is prolonged over the head, completely concealing it from above, covered in front with asperities and often prolonged at its anterior margin in two unciform processes; the sides are not margined. The antennæ are short, terminated by a three-jointed loose club (four-jointed in *Tetrapriocera*), and may have nine, ten or eleven joints, ten being the normal number. The anterior coxæ are contiguous, their cavities confluent.

The genera are as follows:

Intermediate joints of antennæ shorter than the first and second.

Tarsi long, slender, first joint very short.

Antennæ with a three-jointed club ..... **Sinoxylon.**

Antennæ with a four-jointed club ..... **Tetrapriocera.**

Intermediate joints of antennæ longer than the first and second.

Tarsi as long as the tibiæ, slender, second joint long.

Front margined, at the sides at least..... **Bostrichus.**

Front not margined ..... **Amphicerus.**

Tarsi short, second joint not elongated..... **Dinoderus.**

### **SINOXYLON** Dufts.

The species of this genus are of a cylindrical form. The head is completely concealed from above by the thorax, which is truncate in front, the apex covered with asperities, while posteriorly the surface is smooth and punctured. The elytra are cylindrical, obliquely truncate posteriorly, and in many of the species tuberculate or dentate, their sculpture varying with the species; the surface is punctured with but a feeble attempt at a striate arrangement. Several of the species have a distinctly impressed sutural stria near the declivity.

Our species divide themselves into two groups which might be considered genera. I do not think science would be materially benefited by a new name, and I therefore leave them as they have been. These groups are based on the number of the small joints of the antennæ between the second

joint and the club; these may be either five or four, so that in one case the antennæ are 10, in the other 9-jointed.* In the latter case the front has a semicircular row of erect hairs after the manner of *Scolytus*, while in those with 10-jointed antennæ this structure does not exist. The arrangement of the tubercles is also different in the two groups, this is spoken of further on.

Our species may be tabulated in the following manner:

A. Antennæ 10-jointed. Elytra with tubercles around the declivity.
  Last two joints of maxillary palpi equal. Larger species.
    Declivity of elytra coarsely punctured, on each side trituberculate.... **basillare.**
    Declivity impunctured, on each side bituberculate.....**sericans.**
  Last joint of maxillary palpi longer than the preceding. Smaller species.
    Declivity on each side trituberculate and with a few coarse punctures. Front of ♂ bituberculate..**texanum.**
    smooth. Front of ♂ quadrituberculate.....**sextuberculatum.**
    Declivity on each side bituberculate, smooth.....**quadrispinosum.**
    Declivity not tuberculate nor margined.....**dinoderoides.**
B. Antennæ 9-jointed. Elytra with tubercles on or near the suture.
    Declivity coarsely punctured, sutural striæ deeply impressed posteriorly, the two diverging in the declivity, each partly surrounding an acute juxta-sutural acute tubercle.....**bidentatum.**
    Declivity smooth along the suture, and at the upper part a small acute tooth formed by the sudden elevation of the suture.....**declive.**
    Declivity smooth along the suture, the latter slightly triangularly elevated at the middle of the declivity.....**suturale.**

**S. basillare** Say, (*Apate*) Journ. Acad. III, p. 321; ed. Lec. II, p. 181.

A common species in the Atlantic States and at times very destructive to hickory-wood.

The characters in the table will readily distinguish it from any other, excepting possibly *texanum*, the palpi being at times difficult to observe. It is however larger in size and with the declivity more coarsely and densely punctured. The absence of any tubercles on the head may however be a sexual character. Length .24 inch; 6 mm.

**S. sericans** Lec. ♂ Proc. Acad. 1858, p. 73; *asperum* Lec. ♀ loc. cit.

A rather more robust species than *basillare*, with the elytral punctures becoming gradually coarser from the base to the declivity. The apex is rather abruptly declivous and impunctured and with two tubercles on each side, the upper being the more prominent. Length .24 inch; 6 mm.

The male has a vertical tooth arising from the upper side of the left mandible.

Occurs from from Texas to Cape San Lucas.

* NOTE.—These species bear the same relation to the 10-jointed *Sinoxylon* that *Enneadesmus* does to *Xylopertha*. Another parallel case will be found further on.

**S. texanum,** n. sp.

Cylindrical, moderately robust, piceous, shining, thorax and elytra at base rufous. Head densely punctured, vertex with two minute tubercles between the eyes. Thorax slightly wider than long, anteriorly acutely asperato-granulate, posteriorly moderately densely and finely punctured. Elytra coarsely punctured and with two intervals moderately distinct, slightly sub-carinate at base and at tip terminating in the two upper tubercles, tip rather suddenly declivous and punctured on each side, acutely trituberculate, the lower tubercle more prominent. Antennæ and femora pale, tibiæ piceous. Length .14 inch ; 3.5 mm.

This species greatly resembles *sextuberculatum* but is usually a little larger and the declivity has a few coarse punctures. The head of the male has two dentiform tubercles on the vertex, while there are four in the other species.

Occurs in South-western Texas.

**S. sextuberculatum** Lec. Proc. Acad. 1858, p. 73.

In color and sculpture this species agrees for the most part with the preceding. There are not, however, the sub-costiform intervals, and the declivity of the elytra is smooth and without punctures, on each side acutely trituberculate. Length .14–.16 inch ; 3.5–4 mm.

The male has four minute tubercles on the vertex arranged in an arcuate line between the posterior margins of the eyes. The head of the female is plain.

Occurs in California, near Fort Yuma, and probably depredates on the Mesquit.

**S. quadrispinosum** Lec. New Species, 1866, p. 100.

Resembles the preceding in form and color. The thorax in front is acutely tuberculate, posteriorly very sparsely and finely punctured. The elytral punctures are finer at base gradually coarser posteriorly, the declivity is smooth and on each side two equal, conical tubercles. The legs and antennæ are pale, the front tibiæ alone piceous. Length .16 inch ; 4 mm.

Occurs in Lower California and Arizona.

**S. dinoderoides,** n. sp.

Rufo-piceous, feebly shining, cylindrical. Head densely punctured. Thorax as broad as long, asperato-granulate in front, posteriorly moderately densely punctured. Elytra moderately densely but not coarsely punctured, declivity convex, not margined nor tuberculate, suture elevated. Body beneath moderately densely punctulate. Length .16 inch ; 4 mm.

This species has entirely the form of its congeners excepting the absence of margin to the declivity. It is however one of those cases in which it is rather difficult to decide the generic position. The intermediate joints of the antennæ 3–7 are short and scarcely as long as the first two, and the club (joints 8–10) is rather closer than that of any of the others. With these differences noted, I place it in the present genus rather than in *Amphicerus* where its specific name appears in the Check List.

Two specimens ; Camp Grant, Arizona.

**S. bidentatum,** n. sp.

Piceous, thorax and elytra at base rufous. Head punctured, front with a semicircle of yellowish hairs. Antennæ pale, 9-jointed. Thorax slightly broader than long, asperato-granulate in front, smooth and very sparsely punctulate behind. Elytra gradually more coarsely punctured from base to tip, sutural stria near the declivity finely impressed, on the declivity very deeply impressed and arcuate, and surrounding a sub-sutural acute tubercle on each side near the middle of the declivity ; a slight tuberosity is also formed by the interruption of the margin of the declivity near the tip. Legs piceous, anterior femora testaceous. Length .16 inch ; 4 mm.

This species in appearance is not very different from *quadrispinosum,* but the bispinous and coarsely punctured declivity and 9-jointed antennæ will readily distinguish it.

One specimen from Nebraska.

**S. declive** Lec. Pacif. R. R. Rep. 47 par. App. 1, p. 48.

A large species of the form and size of *basillare* with the elytra usually uniformly piceous. The head has the semicircular line of yellow hairs. The thorax roughened in front and sparsely punctured posteriorly. The elytra are more coarsely punctured posteriorly than in front, and there is a sutural stria posteriorly rather deeply impressed but not entering the declivity ; the suture is slightly elevated at the beginning of the declivity, forming an acute tooth ; the declivity has a broad smooth space on each side of the suture. The legs and antennæ are pale testaceous, the tibiæ darker. Length .24 inch ; 6 mm.

Occurs in California and Oregon.

**S. suturale,** n. sp.

Form and color of *bidentatum.* Head punctured and with a semicircle of pale hairs. Thorax slightly broader than long, apex asperato-granulate, posteriorly nearly smooth, sparsely and finely punctured. Elytra rather finely punctured at base, gradually more coarsely toward the tip, declivity coarsely punctured in front, smooth on each side of the suture near the tip, the suture at the middle of declivity slightly triangularly elevated. Legs and antennæ pale, tibiæ darker. Length .16 inch ; 4 mm.

This species has also 9-jointed antennæ.

One specimen ; Sauzalito, California ; James Behrens.

## TETRAPRIOCERA, n. g.

Form of *Sinoxylon.* Head covered by the prothorax. Clypeus and oral organs of *Sinoxylon.* Antennæ eleven-jointed, terminated by a four-leaved club ; first joint stout, second oval, half the length of the first, joints 3–7 short, indistinct, gradually broader, the seventh more than a half broader than the third, the whole taken together not longer than the first joint and but little longer than half the eighth, the latter elongate-triangular with the anterior free angle rounded, the last

three elongate-oval; each as long as the eighth, the four (8–11) with short erect hair sparsely placed.

This species is separated from *Sinoxylon* solely on account of the structure of the antennæ, the eleven joints together with the presence of *four* dilated terminal joints appearing to be too great a divergence from the type of that genus to permit its admission there.

**T. Schwarzi,** n. sp.

Cylindrical, shining, rufous, apex of elytra piceous. Head finely granular, front bituberculate (♂ ?). Thorax as broad as long, slightly narrowed in front, sides feebly arcuate, apex truncate, anteriorly with spiniform tubercles, one of which on each side at apical margin is unciform, disc at middle finely tuberculate, at base and sides sparsely and finely punctured. Elytra irregularly punctate, punctures neither coarse nor dense, declivity flattened, margined at tip and above on each side obtusely trituberculate, surface densely and coarsely punctured. Body beneath rufous, sparsely punctate. Legs and antennæ rufous. Length .18 inch; 4.5 mm.

One specimen taken by Dr. E. A. Schwarz, at Capron, Florida, another from the Island of Santo Domingo from Mr. W. M. Gabb.

## BOSTRICHUS Geoff.

The essential difference between this genus and *Amphicerus* is in the occurrence of a slight frontal margin, which is sometimes evident only at the sides over the insertion of the antennæ. There is nothing special in the facies which can be relied on to assist the discrimination of the two. The hind angles of the thorax are always prominent, but there is one *Amphicerus* in which this also occurs.

Our species may be known by the differences given in the following table.

Thorax in front with two unciform processes.
- Elytra bicostate, vestiture scale-like. ..... **bicornis.**
- Elytra with one short basal costa, vestiture hairy ..... **armiger.**

Thorax in front simply emarginate or truncate.
- Vestiture of elytra consisting of spots of pubescence irregularly placed. Thorax truncate in front ..... **truncaticollis.**
- Vestiture consisting of very sparsely placed, scarcely observable pubescence. Thorax emarginate in front ..... **californicus.**

**B. bicornis** Weber, (*Apate*) Obs. Ent. p. 91; Say, Journ. Acad. III, p. 319; *serricollis* Germ. Ins. Spec. nov., p. 464.

Piceous, sub-opaque, surface clothed with yellowish scales aggregated in irregular patches. Thorax prolonged in front in two unciform processes which are serrate, between them the apex is truncate, apical region roughly granulate, posteriorly with smaller granules, median line distinctly impressed, hind angles prominent, surface sparsely scaly. Elytra bicostate, the inner costa stronger, surface densely cribrately punctured and clothed with yellowish scales in patches. Body beneath finely scabrous, sparsely

pubescent. The anterior and middle tibiæ are feebly serrate, the posterior simple. Length .28–.48 inch ; 7–12 mm.

The male has an acute sub-sutural spine at the apex of each elytron, in the female the suture is merely slightly separated.

This species is so well known and common as hardly to need description, it is widely diffused over our country, but especially common in the Southern States.

**B. armiger** Lec. New Species, 1866, p. 100.

Elytra with trace of inner costa at base, coarsely cribrately punctured, the intervals tuberculate especially near the suture, surface clothed with yellowish hairs arranged in irregularly placed patches. Length .30–.40 inch ; 7.5–10 mm.

The sexual characters are as in *bicornis*, from which it differs in the absence of entire costæ, the tuberculate elytra and the vestiture being hairy and not scaly. Tibiæ as in *bicornis*,

Occurs in the Middle and Western States.

**B. truncaticollis** Lec. New Species, 1866, p. 101.

Piceous, sub-opaque. Thorax slightly longer than wide, apex (seen from above) truncate, without anterior processes, the anterior angles slightly prominent laterally, surface in front tuberculate, posteriorly granulate and sparsely pubescent, angles moderately prominent. Elytra not costate nor tuberculate, surface cribrately punctured and clothed with yellowish hairs arranged in irregular patches. Body beneath moderately densely punctulate and sparsely pubescent. Length .30–.40 inch ; 7.5–10 mm.

The male has a short sub-sutural spine, the female has the sutural angle slightly obliquely truncate. Tibiæ as in *bicornis*.

Occurs from Canada southward.

**B. californicus,** n. sp.

Black, sub-opaque, surface with very sparsely placed short hairs. Head granulate. Thorax emarginate in front and on each side serrate, surface rather coarsely tuberculate, median line distinctly impressed, hind angles rectangular, prominent. Elytra not costate, densely and coarsely cribrately punctured, the intervals elevated and moderately shining but not forming tubercles, surface very sparsely pubescent. Body beneath finely scabrous, sparsely pubescent. The anterior tibiæ are feebly serrate, the middle and posterior simple. Length .40 inch ; 10 mm.

The female has the sutural angle obtuse. Male unknown.

From its black color and the almost entire absence of pubescence, this species has quite a different appearance from the others.

One specimen ; San Joaquin Valley, California ; from Mr. Jas. Behrens.

## AMPHICERUS Lec.

The differences between this genus and the preceding are very feeble, and will probably entirely disappear by the increase of species in the two

genera. Here there is no frontal margin at all, and the antennæ are exposed at base.

Our species, with one exception, occur from the regions west of the Rocky Mountains, while the reverse is the case in *Bostrichus*. They are distinguished in the following manner:

Thorax with distinct hind angles.....**fortis.**
Thorax with hind angles not prominent.
Declivity of elytra distinctly margined at tip.....**punctipennis.**
Declivity not margined.
Surface with sparse recumbent pubescence.....**bicaudatus.**
Surface with moderately long hairs. Form more slender.....**teres.**

**A. fortis** Lec. New Species, 1866. p. 101.

Cylindrical, robust, piceous black, shining. Thorax a little broader than long, apex with two hook-like processes pubescent at tip, in front roughly granulate, toward the anterior angles serrate, posteriorly densely granulate, smoother near the hind angles which are prominent. Elytra coarsely substriately punctured, declivity gradually convex, not margined nor callous. Body beneath sparsely punctulate, scarcely at all pubescent. Length .38–.68 inch; 9.5–17 mm.

This species is abundantly distinct from *punctipennis* by the prominent hind angles of the thorax, the form of the declivity and the almost entire absence of pubescence beneath. Crotch appears to have considered it the female of the next species, and for that reason omitted it from the Check List. I cannot convince myself that so many differences are sexual only.

Occurs from St. George, Utah to Arizona and Peninsula of California.

**A. punctipennis** Lec. (*Apate*) Proc. Acad., 1858, p. 73.

Cylindrical, robust, piceous black, shining. Thorax as long as wide anteriorly with two hook-like processes (not pubescent at tip), anterior face of thorax roughly granulate, at the sides serrate, posteriorly smoother granulations flattened, not prominent, hind angles not distinct. Elytra subseriately coarsely punctured, declivity slightly flattened, on each side two elongate callosities; at tip for a short distance acutely margined. Body beneath moderately densely punctate and clothed with fulvous pubescence. Abdomen densely punctulate with a few very large punctures intermixed, surface densely fulvo-pubescent. Length .46–.54 inch; 11.5–13.5 mm.

Occurs from Texas and Utah to New Mexico, Arizona, California, Peninsula California and Mexico.

**A. bicaudatus** Say, (*Apate*) Journ. Acad. III, p. 320; *aspericollis* Germ. Ins. Spec. nov., p. 258; *hamatus* Fab. *forte*, Ent. Syst. i, 2, p. 360; Syst. El. II, p. 380.

Cylindrical, moderately elongate, piceous brown, sparsely clothed with recumbent pubescence. Thorax as in *punctipennis* but with the hook-like processes smaller. Elytra moderately coarsely irregularly punctured, declivity oblique coarsely cribrate. Body beneath moderately densely punc-

tulate. Abdomen densely punctulate with coarse punctures intermixed, surface moderately pubescent. Length .26–.40 inch ; 6.5–10 mm.

The male has a moderately long process on each side of the declivity, in the female reduced to a small tuberosity.

Occurs everywhere east of the Rocky Mountains.

**A. teres,** n. sp.

Brownish piceous, cylindrical elongate, sparsely clothed with moderately long semi-erect pubescence. Front with moderately long erect yellowish hair. Thorax as broad as long, apex truncate without processes, anteriorly roughly punctate, toward the sides serrate, posteriorly substrigose, hind angles not evident. Elytra coarsely seriately punctured, declivity regularly convex, not margined nor tuberculate. Body beneath sparsely punctate and pubescent. Length .18–.22 inch ; 4.5–5.5 mm.

In the two specimens before me I detect no sexual differences.

Occurs at Fort Yuma, California.

## DINODERUS Steph.

The species of this genus are of cylindrical form, sometimes very slightly depressed. The thorax is covered with asperities in front in the manner usual to the genera of this tribe.

Here again we have a species (*brevis*) in which the antennæ vary from the normal number of joints, there being in the one species six and in the others five small joints between the second and the club. The second joint of the antennæ is usually nearly as stout as the first and short, in one species, however, (*punctatus*) this joint is much more elongate than usual as are also the third and fourth, this makes the antennæ longer and more slender ; here also the antennæ are fimbriate anteriorly.

The length of the three-jointed club as compared with the funicle exhibits an amount of variation which indicates the propriety of suppressing the name of one or other of the generic names *Dinoderus* or *Rhizopertha*. The former is retained as it has the greater number of species in our fauna.

The surface of the body is sparsely clothed with short erect hairs, in *punctatus* alone the pubescence is not erect.

The declivity of the elytra is normally convex, two species have it flattened and limited to a varying extent by a ridge (*punctatus, truncatus*).

The other variations of structure are more strictly specific.

In accordance with the relative importance of the characters above given, our species may be arranged in the following manner :

A. Antennæ 10-jointed, form elongate cylindrical.
  Declivity of elytra convex, not acutely margined.
    Margin of thorax coarsely serrate.
      Head opaque, rather roughly granulate. . . . . **porcatus.**
      Head shining, smooth, granules small, flat. . . . . **substriatus.**
    Margin of thorax feebly serrate.
      Elytral punctures irregularly disposed. Color piceous.

Declivity of elytra with simple punctures.....**cribratus.**
Declivity granulate or muricate.....**densus.**
Elytral punctures in regular striæ. Color ferruginous....**pusillus.**
Declivity more or less flattened and acutely margined.
Second joint of antennæ as slender as the third, joints 3–8 hairy in front. Marginal ridge of declivity short.....**punctatus.**
Second joint of antennæ stout, joints 3–8 not hairy. Declivity flat and very abrupt, the marginal ridge long.....**truncatus.**
B. Antennæ 11-jointed, form short.
Margin of thorax not serrate, declivity convex.....**brevis.**

**D. porcatus** Lec. New Species, 1866, p. 101.

Brownish opaque, sparsely clothed with short erect hair. Front opaque, roughly granulate. Thorax as long as wide, slightly narrowed in front, margin conspicuously serrate; disc in front with spiniform tubercles, posteriorly moderately densely tuberculate and with a fine smooth median line. Elytra striately tuberculate. Body beneath sparsely punctate. Length .14 inch; 3.5 mm.

Occurs from Pennsylvania southward and westward.

**D. substriatus** Payk. (*Apate*) Faun. Suec. III, p. 142; Mann. Bull. Mosc., 1853, III, p. 233.

Piceous, moderately shining, sparsely clothed with short erect hair. Front shining, sparsely granulate. Thorax as wide as long, a little narrowed in front; disc anteriorly with spiniform tubercles, posteriorly densely granulate, median line not evident; margin conspicuously serrate. Elytra with rows of coarse, deep, closely placed punctures, intervals submuricate. Body beneath shining, sparsely punctate. Length .16–.18 inch; 4–4.5 mm.

This and the preceding species are closely allied and differ only in sculpture. In the former the intervals are broken up into closely placed tubercles, in the latter the punctures of the intervals are more evident and the intervals are continuous, their summits being submuricate.

Occurs particularly in the Northern States and Canada.

**D. cribratus** Lec. New Species, 1866, p. 102.

Piceous, shining, sparsely hairy. Head shining, sparsely granulate. Thorax as wide as long, scarcely narrowed in front, margin very feebly serrate; disc in front with coarser tubercles, posteriorly, densely granulate, median line not distinct. Elytra with coarse, deep punctures, moderately, densely placed, feebly arranged in rows on the disc, confused at the sides, intervals not elevated. Body beneath sparsely punctate. Length .16 inch; 4 mm.

Occurs in the Middle States.

**D. densus** Lec. loc. cit.

Piceous, moderately shining, sparsely hairy. Front shining, sparsely granulate. Thorax as wide as long, margin very feebly serrate; disc in front roughly tuberculate, posteriorly densely granulate. Elytra densely

and rather irregularly punctured, intervals sub muricate, declivity granulate. Body beneath sparsely punctate. Length .14–.16 inch; 3.5–4 mm.

This species differs from the preceding in its rougher sculpture, and denser punctuation, the declivity in the former species being punctured, in this granulate.

Occurs in the Southern States; also, in Michigan.

**D. pusillus** Fab. (*Sinodendron*) Ent. Syst. Suppl., p. 156; Stephens Illust. Brit. Ent. III, p. 354; Duval Gen. Col. Eur. III, pl. 57, fig. 281.

Cylindrical, brownish or castaneous, shining. Head very sparsely punctate. Thorax as broad as long, margin scarcely serrate, surface asperato-granulate in front, less roughly granulate posteriorly. Elytra with rows of coarse, deeply impressed, closely placed punctures. Body beneath moderately coarsely but sparsely punctate. Length .12 inch; 3 mm.

This insect appears to be cosmopolite, having probably been distributed in articles of commerce. Numerous specimens were observed in the wheat at the Centennial Exposition. It probably occurs over our entire country, as I have specimens from Arizona.

**D. punctatus** Say, (*Apate*) Journ. Acad. V, p. 258.

Piceous, sparsely pubescent. Front sparsely punctured. Antennæ with moderately long hairs in front, the second joint as slender as the third and moderately long. Thorax a little longer than wide, narrowed in front, margin very feebly serrate, disc in front with spiniform tubercles, posteriorly indistinctly granulate, and more shining. Elytra densely and irregularly coarsely punctate, intervals not elevated, declivity feebly convex, suture slightly elevated, on each side a more prominent but small dentiform tubercle, at sides of apex acutely margined. Body beneath moderately densely punctate. Length .18 inch; 4.5 mm.

This species is abundantly distinct in the structure of the antennæ.

Occurs from Pennsylvania westward.

**D. truncatus,** n. sp.

Rufo-piceous, moderately shining, surface sparsely clothed with very short hair. Front moderately, densely punctate. Thorax as wide as long, gradually arcuately narrowed from base to apex, margin very finely serrate, disc anteriorly, roughly granulate, posteriorly, feebly but densely muricate. Elytra with coarse, deep, closely placed punctures, arranged in moderately regular striæ, except near the scutellum, intervals not elevated, declivity abrupt, flat, densely punctate, acutely margined. Body beneath opaque, obsoletely punctate. Length .14 inch; 3.5 mm.

The marginal ridge of the declivity encloses an exact semi-circle, while the face of the declivity is nearly vertical to the axis of the body.

Two mutilated specimens from California.

**D. brevis,** n. sp.

Cylindrical, robust, brownish, shining, sparsely hairy. Thorax as broad as long, slightly narrowed to the apex, base truncate, margin not serrate, disc anteriorly with short dentiform asperities arranged in four or five

transverse series; behind these the thorax is densely and coarsely punctured, disc sub-carinate at middle posteriorly, and on each side of this a feeble depression. Elytra cylindrical, obtusely declivous posteriorly, surface coarsely and deeply and moderately densely punctured. Body beneath piceous, legs paler. Length .12 inch; 3 mm.

This species differs from all the others by its eleven-jointed antennæ, the additional joint occurring among the small ones between the second and the club. Its form is also shorter, and more robust, resembling in this respect some of the species of *Xyleborus*. In this species we have the third instance in our fauna of the variation of the number of antennal joints within what must be considered generic limits.

Several specimens sent me by Dr. Summers from New Orleans.

## Tribe **PSOINI**.

Head entirely free, eyes at least moderately prominent. Antennæ nine or ten-jointed, terminated by three-jointed club, which is a little shorter than the preceding portion. Thorax oval, sides not margined, surface not muricate. Tarsi slender, elongate, four-jointed in *Psoa*, five-jointed in *Polycaon*, the first joint being very small.

Two genera occur in our fauna.

Anterior coxæ separated, tibiæ serrulate..... .....**Polycaon.**
Anterior coxæ contiguous, tibiæ slender, simple.....**Psoa.**

With *Polycaon* I have united *Exopioides*, the ten-jointed antennæ being the only differential character. There are species belonging to the latter genus with the declivity margined, but not exactly as in the normal series of *Polycaon*. *Acrepis* does not differ essentially from *Psoa*, and another instance is thus presented of the analogy of the fauna of the western side of our own continent, with that of the western side of the eastern continent.

### **POLYCAON** Lap.

This genus contains species of moderate size, the first black and slightly depressed, the others piceous or brownish and cylindrical.

The antennæ exhibit important differences. In *Stoutii* the fourth joint is rather elongate, and 4–8 slightly compressed, these taken together longer than the club. In the other species the third and fourth joints are of nearly equal size, and sub-moniliform, and taken together not longer, rarely as long as the club.

*Exopioides* (which is here suppressed) differs only in having one joint less in the funiculus.

The prosternum separates moderately widely the coxæ, and is slightly dilated behind in *Stoutii*, or not dilated in the others.

The elytral declivity presents two forms, that in which the tip is gradually declivous, or that in which the declivity is more or less flattened, and limited by an acute edge, thus far an equal number of species occurs in each.

The epistoma is rather deeply emarginate in *Stoutii*, in the other species truncate or broadly emarginate.

By an arrangement of the above characters our species may be tabulated in the following manner:

Antennæ eleven-jointed.
- Third joint of antennæ much smaller than the fourth, joints 3–8 together longer than the club.
  - Prosternum behind dilated (*Allæocnemis*).
    - Thorax punctured on the disc and shiny.....**Stoutii** ♂.
    - Thorax granular and opaque.....*ovicollis* ♀.
- Third joint of antennæ equal to the fourth, joints 3–8 together shorter than the club. Prosternum not broader behind.
  - Declivity of elytra not acutely margined.
    - Thorax punctate at middle.....**punctatus** ♂.
    - Thorax granulate.....*pubescens* ♀.
  - Declivity of elytra acutely margined.
    - Elytra coarsely, densely and roughly punctured.
      - Marginal ridge of declivity short.....**exesus.**
      - Marginal ridge of declivity long.....**obliquus.**
    - Elytra sparsely and coarsely punctured, transversely plicate at the sides.....**plicatus.**

Antennæ 10-jointed. Joints 3 and 4 equal.
- Joints 3–7 together not longer than the club. Elytra not margined at declivity.....**confertus.**

**P. Stoutii** Lec. ♂. Proc. Acad., 1853, p. 233; *ovicollis* Lec. ♀. Pacif. R. R. Rep., 1857, p. 49.

This species is the largest in our fauna. The color is deep black. The elytra are gradually rounded at declivity without any elevated ridge at the sides. The two sexes appear so distinct that a separate mention will be made of each. Length .38–.76 ♀, .60–.84 ♂ inch; 10–19 mm. to 15–21 mm.

*Male.* Head large, equaling the thorax in size. surface rather coarsely granulate but not opaque; clypeus concave rather deeply emarginate at middle; mandibles stout and moderately prominent. Thorax moderately shining. disc punctured at middle, at sides and beneath granulate. Elytra shining, sparsely and rather finely punctulate.

*Female.* Head not as large as the thorax, surface opaque, rather coarsely granulate; clypeus flat, feebly emarginate at middle; mandibles not prominent. Thorax opaque, granulate over the entire surface. Elytra opaque, scabrous, sub-granulate near the base.

The head and thorax have erect black hairs sparsely placed, the elytra very finely pubescent. This latter is, however, rarely seen, as the hairs are very easily destroyed. I have never observed any sexual characters other than those mentioned above. The anterior femora appear to be a little stouter in the male, but this is not very evident. It has long been suspected by me that these were sexes of one species, so that in the

"Check List," p. 127, I ventured the suggestion which I now feel must be more positively stated.

Occurs in California and Oregon.

**P. punctatus** Lec. ♂. New Species 102; *pubescens* Lec. ♀, loc. cit.

Piceous brown, moderately shining, surface sparsely clothed with unequal, erect, yellowish hairs. Elytra regularly convex at the declivity, the latter without marginal ridge. Length .40♀–.48♂ inch; 10–12 mm.

*Male.* Head a little larger and with the mandibles a little more prominent. Thorax sub-granulate at the sides, punctured at middle. Elytra finely and rather sparsely punctate.

*Female.* Head and mandibles smaller than the male. Thorax granulate over the entire surface but not densely. Elytra more distinctly punctate.

The differences here are parallel with those noticed in the preceding species.

Occurs in the Peninsula of Lower California.

**P. exesus** Lec. Proc. Acad., 1858, p. 74.

Piceous, moderately shining, sparsely clothed with erect, yellowish pubescence. Head densely granulate, vertex with a smooth line at middle. Thorax moderately densely granulate. Elytra convex at the declivity, the latter margined around the apex, the two ridges and apical margin limiting a semicircular space; surface with very coarse and deep punctures which are very dense at the sides and posteriorly, at apex the punctures become obsolete and are replaced by granules. Length .56 inch; 14 mm.

The specimen before me is a female apparently, but has the sutural angle of the elytra slightly dentiform. This species differs from the next by its deeper and rougher sculpture and by the marginal ridge of the declivity short.

Occurs in the Peninsula of Lower California.

**P. obliquus** Lec. Trans. Am. Ent. Soc., 1874, p. 66.

Dark brown, feebly shining, sparsely pubescent. Head granulate. Thorax granulate at the sides, moderately, coarsely punctured on the middle of the disc. Elytra moderately, densely muricately punctured, declivity oblique, slightly flattened, sparsely granulate, much smoother at tip, and with a limiting ridge, the two sides and apex enclosing three-fourths of a circle. Length .48 inch; 12 mm.

I have two specimens before me, both females probably, which differ from the preceding species by their less rough sculpture, and the declivity flatter and more nearly surrounded by the acute margin.

Occurs in Texas.

**P. plicatus** Lec. loc. cit. p. 65.

Brownish, shining, very sparsely hairy. Head finely granulate. Thorax sparsely punctate. Elytra with a few coarse punctures sparsely placed near the base, and along the suture, sides slightly flattened, and with transverse

plications; declivity oblique, flat, very finely and sparsely punctate, and limited by an elevated ridge, which with the apical margin includes rather more than three-fourths of a circle. Length .36–.40 inch; 9–10 mm.

This species is distinct from all the others by its elytral sculpture.

Occurs in Texas.

**P. confertus** Lec. New Species, 1866, p. 102; *incisus* Lec. (*Exopioides*) Trans. Am. Ent. Soc., 1868, p. 64.

Chestnut brown, feebly shining, sparsely pubescent. Head and thorax moderately densely granulate. Elytra moderately densely punctate, becoming granulate at the sides and apex, declivity oblique, not flattened nor margined. Length .30–.46 inch; 7.5–11.5 mm.

*Male.* Apices of elytra separately emarginate, and with a sutural and external angulation.

*Female.* Apices of elytra entire.

The suppression of *Exopioides* into *Polycaon* follows from the course adopted in *Sinoxylon* where species are recognized with ten-and nine-jointed antennæ. In all other respects the two genera fully agree.

Occurs in California where it is said to depredate on grape vines.

## PSOA Hbst.

*Acrepis* Lec. Ann. Lyc., V, p. 213.

Head free, labrum small, indistinct. Antennæ ten jointed, terminated by a loose, three-jointed club; first joint stout, obconical, second shorter, oval, 3–7 subequal, longer and more slender than the second, the fourth being a little longer than the others, eighth oboval, ninth shorter, tenth oval, a little longer than the ninth. Anterior coxæ very narrowly separated by a short prosternum. Tarsi slender, the first joint not distinct.

At the base of the first joint of the tarsus a faint trace exists of the point of union between the true first joint, and that which appears to be first, but which is really the same as the long second joint of *Polycaon*. There is quite a distinct onychium in our species, although Lacordaire says there is none in the species which were before him.

The genus *Acrepis* was founded on a specimen captured by Dr. LeConte, in California, and which was subsequently lost at sea with other types, while on the way to Europe for the examination of Lacordaire. In 1868 another species was found, but the specimen was not in the most desirable state for examination, consequently the best was made of the specimen before me and the genus retained as distinct. The material now at my command is all that could be desired, and indicates that *Acrepis* should be suppressed into *Psoa*.

Our species are two in number, of one of them we have yet no example, the only evidence of its existence being the description, and the memory which Dr. LeConte retains of his type. For the latter I can only reproduce his description.

**P. maculata** Lec. (*Acrepis*) Ann. Lyc., V, p. 213.

Piceous-æneous, shining, sparsely clothed with cinerous pubescence. Head and thorax globose, the latter narrower behind, truncate and margined, densely punctured. Elytra parallel cylindrical, not wider than the thorax, rugosely punctured, suture, margin and three spots on each white. Length .34 inch ; 8.5 mm.

The first spot is humeral, the second median, the third narrow, lunate and near the tip.

Notwithstanding the view expressed to me by Dr. LeConte, I suspect that this and the next species will prove to be one.

**P. quadrisignata** Horn, (*Acrepis*) Trans. Am. Ent. Soc., 1868, p. 135.

Æneous, shining, sparsely pubescent. Thorax not densely punctate. Elytra variable in color, surface moderately densely punctured and rugulose. Body beneath moderately densely punctulate, sparsely pubescent. Abdomen æneous at the sides, rufous at the middle, sparsely punctulate. Legs æneous. Length .22–.36 inch ; 5.5–9 mm.

*Var.* ——. Elytra blue with a small red humeral spot.

*Var. quadrisignata* Horn. Elytra blue with a humeral and subapical red spot.

*Var.* ——. Elytra blue, lateral margin red, uniting the humeral and subapical spots, the spots also larger in size.

*Var.* ——. Similar to preceding, with the suture also red, and a small blue spot appears in the centre of the apical spot.

*Var.* ——. The red color still further extends, so that the elytra are red with three blue spots, one at basal third, one behind the middle, and one apical.

Occurs in Mariposa County, California.

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## *Synopsis of the* COLYDIIDÆ *of the United States.*

BY GEORGE H. HORN, M.D.

(*Read before the American Philosophical Society, April* 19, 1878.)

The first arrangement of the genera of this family is due to Erichson, who created it, associating genera whose aggregate possesses very little homogeneity, no less in form and general external appearance than in more important structural characters. The family appears to be composed of a certain number of genera which form natural groups or tribes, as the *Synchitini* and *Colydiini*, around which are arranged other tribes composed of genera with feeble alliances among themselves and which seem to be like *Cupes* and *Rhysodes*, either relics of pre-existing faunæ or indifferentiated in characters so that whatever position may be assigned them